

Seminar 25

1. Given the past 4 years sales data as follows:

Year	Quarter I	Quarter II	Quarter III	Quarter IV
1990	120	150	90	100
1991	135	170	125	140
1992	150	220	150	170
1993	175	250	150	200

Assume the time series to be a multiplicative model.

- a. Determine the seasonal index of the 4 quarters,
- b. hence deseasonalized the original time series.

Assume the time series to be an additive model.

- c. Determine the seasonal index of the 4 quarters.

2. The research officer of a small country is now undertaking a research about the no. of tourists visiting the country. He obtained the no. of tourists (in '000) visiting the country over the past 5 years as followings:

Year	1990	1991	1992	1993	1994
Jan - Jun	200	210	230	240	270
Jul - Dec	250	260	270	300	340

And the researcher has identified the following characteristics of the time series:

- i. there is a steady increasing trend over the past 5 years.
- ii. no. of tourists of the second half of a year is always more than that of the first half of the year.
- iii. the four components of the time series seem to be independent.

Using the above information,

- a. estimate the no. of tourists visiting the country in the first six months of 1995, and
- b. estimate the total no. of tourists in 1996.